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I-40 COLLABORATION

A collaboration of Tulsa Area and Arkansas Clean Cities Coalitions funded through Clean Cities FOA: Implementation Initiatives to Advance Alternative Fuel Markets

Project ID # TI040

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Tulsa Area Clean Cities
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This presentation does not contain any proprietary, confidential, or otherwise restricted information.

Project Overview

Timeline

- Start: February 2013
- End January 2015
- 40% complete

Budget

- Total project funding
 - \$750,000 (DOE)
 - \$15,980 (local match)
- Budget Period 1: \$470,000
- Budget Period 2: \$280,000
- 36% of funds spent to date
 - Many project partners have not yet invoiced for substantial work already completed

Barriers Addressed

- Lack of technical experience
- Consumer reluctance
- Maintenance of local coalition effectiveness

Key Partners

- | | |
|---|---|
| • AR Clean Cities | • OK and AR Technical and Community Colleges |
| • Oklahoma Departments of Commerce & Capital Asset Management | • NAFTC |
| • OSU Fire Service Training | • Project Lead: Tulsa Area Clean Cities Coalition |

Project Relevance

Project Objectives

Expand the capacity for alternative fuel use in Oklahoma and Arkansas by addressing:

- Policy
- Barrier Reduction
- Safety and Training
- Market Development/Outreach



Supports VTP Deployment Goals

- Ease market introduction of alternative fuels and new electric drive vehicle technologies through voluntary efforts in partnership with local communities
- Providing technical and educational assistance to support local communities and partnerships that promote better understanding of the benefits of these new technologies.
- Accelerate the adoption and use of alternative fuels
- Training of a specialized workforce suited for the advanced vehicle technologies of the future

Milestones: Policy Initiatives

Zoning Code Recommendations

Research changes other municipalities have made in anticipation of alternative fueling stations
– In process

Draft best practices report of based on findings of research.
– In process

Host a meeting of code officials, fire marshals, and engineers of alternative fueling stations to present report.
– Planned for Fall 2014

Case Study: Mechanic Licensure in OK

Interview major stakeholders involved development of Oklahoma's licensure program for installation, service and repair of CNG vehicles.
- Complete

Draft summaries of the regulations and write case study on implementation with lessons learned and suggestions for wider use.
- Complete

Investigate Sale-for-Resale Utility Restrictions

Research related laws in other states
– In process

Meet with electric and gas utilities to provide input on the assessment
– In process

Milestones: Barrier Reduction

Alt Fuel Highway Signage

Develop project information for the Ozone Advance Program and inclusion in the state SIP
- **Complete**

Research into implementation processes for highway signage
- **Complete**

Meet with personnel at Oklahoma Department of Transportation
- **Planned for Summer '14**

Step-By-Step Guides for Alt Fuel Station Developers

CNG Guide published by ANGA, CNG guide removed from our deliverables
- **Complete**

Subcontractor selected for LPG Guide
- **Complete**

Milestones: Safety and Training

Oklahoma AFV Rules and Regs Outreach

Develop project information for the Ozone Advance Program and inclusion in the state SIP
- **Complete**

Research into implementation processes for highway signage
- **Complete**

Meet with personnel at Oklahoma Department of Transportation
- **Planned for Summer '14**

AFV Mechanic Training Program in Arkansas

Site visits to Tulsa Technology Center to tour AFV lab.
- **Complete**

Recruitment of advisory board of industry professionals
- **Ongoing**

Course syllabus developed
- **Complete**

CNG Station Safety Curriculum Development and Training

Curriculum developed by contractor and approved by DOE – **Complete**

Initial 10 trainings around OK conducted – **Complete**

Two additional contracts for 10 trainings in OK & 10 in AR
- **Complete**

Inquiries from other states and nation-wide organizations about using the curriculum – **Ongoing**

Milestones: Market Development

CNG Conversion Public Outreach Video

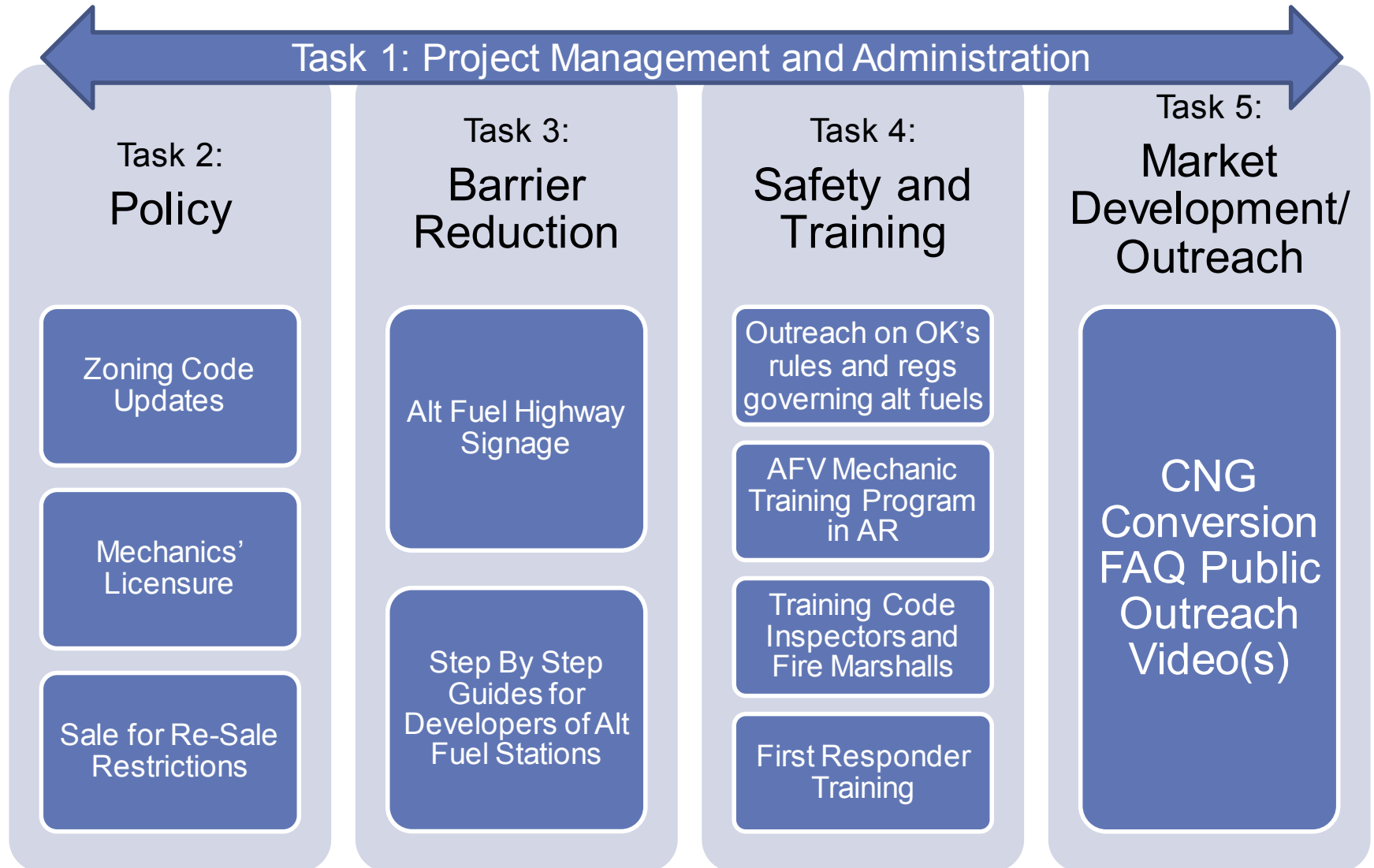
Videographer secured

Preproduction meetings with industry experts/Tulsa Clean Cities Stakeholders to determine scope of video

Three days of filming on camera interviews

Video editing completed in May

Project Approach



Accomplishments: Policy Initiatives

Zoning Codes

City of Tulsa is currently updating its zoning codes using an outside contractor

We contracted with the same outside contractor to develop recommendations for AFV infrastructure

Several City Managers from surrounding communities have expressed interest in receiving the report when it becomes available

Oklahoma Mechanic Licensure Policy

Case study finalized in May

Case study found that Oklahoma has a sufficient structure of rules and regulations governing the alternative fuels industry, but lacks enforcement capacity.

Accomplishments: Barrier Reduction and Market Development Initiatives

Alt Fuel Highway Signage

OK Department of Commerce has written a case study outlining the two main methods states use to place highway signage

CNG Conversion Outreach Video

Preproduction meetings held with stakeholders and videographer to determine the video(s) content

Interviews with three industry experts/Tulsa Clean Cities stakeholders were conducted and filmed

Final product delivered in late May



Accomplishments: Safety & Training Initiatives

Arkansas
Mechanic
Training
Program

Course
syllabus
developed

Oklahoma
AFV Rules
and Regs.
Outreach

Course
Developed

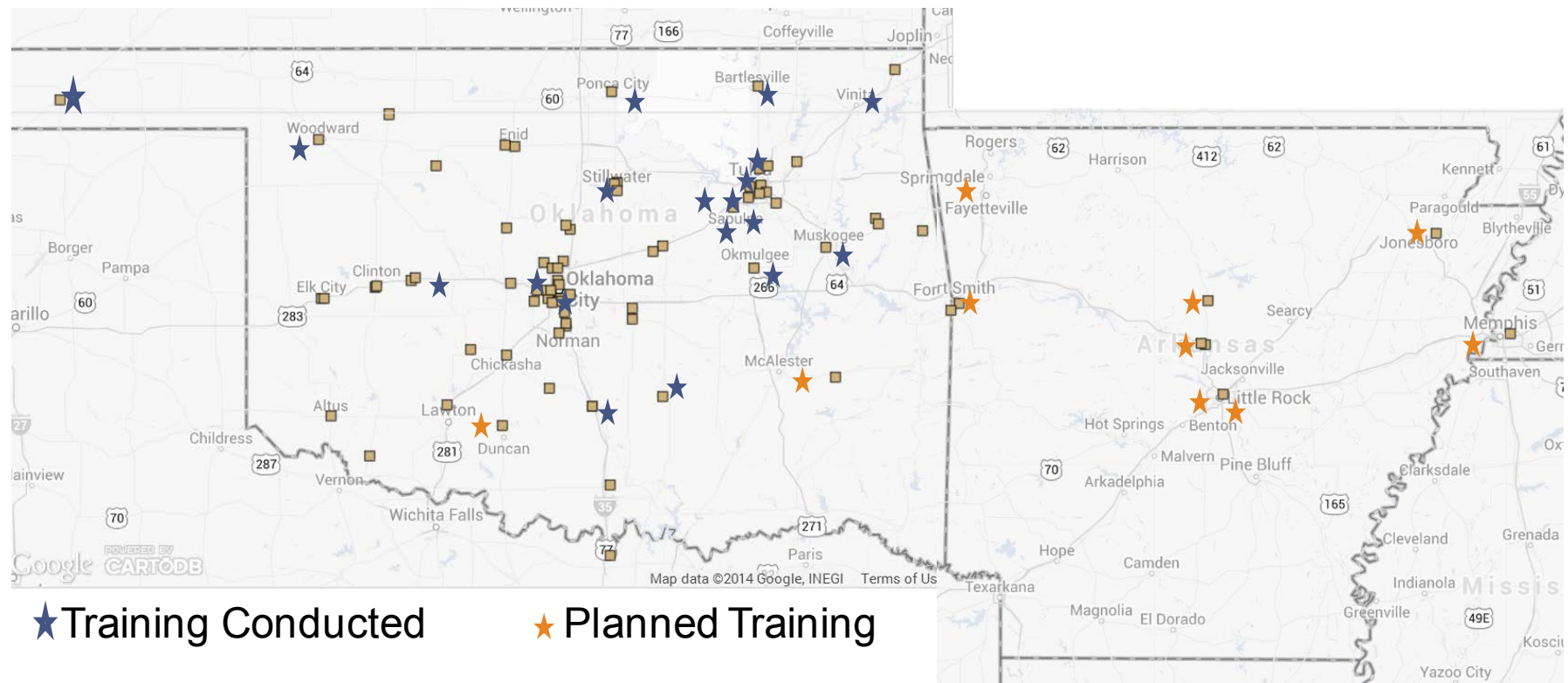
Outreach
materials
developed

First
workshops
conducted



Accomplishments: Safety & Training cont.

Code Inspector and Fire Marshall Training on CNG Station Safety



Year 1

- Curriculum developed & DOE approved
- 10 trainings across OK
- 106 Personnel Trained

Year 2

- Extend contract; 10 more OK trainings
- Additional contract; 10 AR trainings
- Other groups nation-wide expressing interest in the curriculum

Accomplishments: Safety & Training cont.

Code Inspector and Fire Marshall Training on CNG Station Safety



Accomplishments

General

8A July 3, 2013 • The Journal Record • journalrecord.com

Tulsa program promotes alternative fuels

BY D. RAY TUTTLE
THE JOURNAL RECORD

TULSA - There are 167 alternative fueling stations in Oklahoma and more fueling options are expected as alternative fuel vehicles grow in popularity, said Adriane Jaynes, spokeswoman for the Tulsa Area Clean Cities program.

Most of the current alternative fueling stations are compressed natural gas stations, with some electric, propane and others as well, Jaynes said.

"The number of alternative fueling stations is growing because the technologies are improving, the costs are coming down and most important to the long-term viability of these fuels, fleets and individuals are beginning to see significant financial savings by using these fuels," Jaynes said. "Tulsa Area Clean Cities is a resource to fleet managers and business owners as they investigate whether alternative fuels can benefit their bottom line."

Tulsa Area Clean Cities is one of two Oklahoma chapters of the U.S. Department of Energy Clean Cities Program, along with Central Oklahoma Clean Cities. The Oklahoma chapters are two of 45 U.S. Department of Energy Clean Cities program alliances operating in cities and national parks across the country. Central Oklahoma Clean Cities operates within the Association of Central Oklahoma Governments.

The program is eyeing ways to alert the public to the availability of the stations.

A project funded by a U.S. Department of Energy grant will speed up the construction of alternative fueling station highway signs - similar to the signs indicating that food and fuel is available at each exit, Jaynes said.

"These new alternative fuel signs will help current drivers looking for alternative fuels for their vehicles, but will also alert the general public to the growing availability of these new fuels and help encourage more drivers to utilize them," Jaynes said.

Tulsa Area Clean Cities is a voluntary organization made up of government agencies, private companies and nonprofit agencies. The mission is to cut petroleum use in the transportation sector by



The Apache quick-fill compressed natural gas station in midtown Tulsa. PHOTO BY AP/WIDEWORLD

switching to alternative fuels. The emphasis is on fleets.

This year has been one of growth, Jaynes said.

"We began the year with two part-time staff and by the end of the summer we will be a staff of 2.5 full time," Jaynes said. "The number of full-time staff members is the most ever in the program's 16 years at the Indian Nations Council of Governments."

"Our goal is to reach out to our current stakeholders and find out what else they need from us and continue to provide our stakeholders timely information about the alternative fuel industry," Jaynes said.

At the end of last year, Tulsa Clean Cities was host to a CNG summit, a one-day conference designed to educate fleet managers and business owners about the

benefits of CNG.

More than 250 people from 12 states attended the conference. Speakers included Gov. Mary Fallin.

"The event demonstrated the benefits and increasing availability of CNG and CNG vehicles while highlighting the vast industry expertise in Tulsa and throughout Oklahoma," Jaynes said.

On the heels of that summit, Tulsa Area Clean Cities officials were awarded a \$750,000 grant from the Department of Energy to fund 11 projects aimed at getting alternative fuel stations built in Oklahoma and Arkansas.

Projects funded by the grant included creating a curriculum to educate fire marshals and building inspectors about CNG station safety, and drafting a best practices report outlining changes in building and zoning codes adopted by other

municipalities to accommodate CNG and propane fueling sites and electric vehicle charging stations, Jaynes said.

Also, the grant funded a series of videos to educate the general public and fleet managers about steps to take before converting vehicles to operate on CNG.

"A coalition's success is typically measured by the number of alternative fueling stations opened and the petroleum reductions made by stakeholders each year," Jaynes said. "In Tulsa Area Clean Cities we also judge our success by our stakeholder involvement and satisfaction."

Next year, Tulsa Area Clean Cities looks forward to hosting another CNG summit, Jaynes said. Also, the program looks to complete the projects from the DOE grant and increase the use of alternative fuels in eastern Oklahoma.

Partnership with OzoneAlert! led to inclusion of many grant funded projects in Oklahoma's Ozone Advance Plan

Media stories about grant award and projects

Several projects have come in under budget, allowing the addition of more projects



Collaboration and Project Partners

- Clean Cities Coalitions
 - Tulsa Area Clean Cities
 - Arkansas Clean Cities
- State Agencies
 - Oklahoma Department of Commerce
 - Oklahoma Department of Capital Asset Management
 - Arkansas State Energy Office
- Higher Education
 - Tulsa Tech
 - Oklahoma City Community College
 - Pulaski Tech (AR)
 - Oklahoma State University Fire Education Service
- Others
 - INCOG
 - OzoneAlert!
 - State Fire Marshal (OK)
 - City of Tulsa Office of Sustainability
 - NAFTC
 - Tulsa Gas Technologies
 - CleanNG
 - Oklahoma Natural Gas
 - Oklahoma LP Gas Association
 - Duncan and Associates
 - Many Tulsa Area Clean Cities stakeholders

Future Work/ Alt Fuel Market Expansion Potential

Policy:

The policy work will soon yield useful case studies that will provide a framework for other states and municipalities to update zoning codes and utility regulations, and most importantly, follow Oklahoma's example of AFV Mechanic Licensure.

Finalize Zoning Code recommendations; host a meeting of relevant stakeholders to disseminate report

Mechanics' Licensure; send report to AR for review and appendix; work to distribute findings

Write case study on Sale for Re-Sale Restrictions in AR; work to distribute findings

Barrier Reduction:

Two major barriers in OK are the misunderstanding that we do not have many alt fuel stations; and confusion among developers regarding the construction of the stations. Highway signage will promote the stations we already have; and developer guides will assist developers in building out our infrastructure.

Alt Fuel Highway Signage; work with DOT to develop program; determine budget and find funding for a pilot project to install signage

Step By Step Guides for Developers of Alt Fuel Stations; finalize Propane Guide, draft appendix for CNG guide; determine if EV guide is necessary

Next Steps/ Alt Fuel Market Expansion Potential

Safety and Training:

Oklahoma is at the forefront of CNG development. As our industry progresses, we continually find new personnel in need of training to understand the safety issues surrounding CNG.

Outreach on OK's rules and regs governing alt fuels; continue outreach workshops

AFV Mechanic Training Program in AR; continue program development

Training Code Inspectors and Fire Marshalls; expand into AR

New Projects: First Responder and Mechanic Training

Market Development/ Outreach:

Oklahoma and Arkansas have booming CNG conversion industries. Many of these conversion shops do not adhere to industry standards and safety protocol. This outreach is targeted directly to consumers considering CNG conversion.

CNG Conversion FAQ Public Outreach Video(s); post video on TACC site; large "Google Ad Words" campaign; make the video available to other groups to post it on their site.

Summary

- The I-40 Collaboration is advancing the use of alternative fuels by:
 - Addressing the alternative fuel related technical training needs of fire marshals, code inspectors, mechanics, law enforcement, and emergency medical technicians, and developers in Oklahoma and Arkansas.
 - Adding to the growing body of research and case studies available to state and local governments regarding best practices surrounding alternative fuel policy.
 - Reaching out directly to drivers to promote the presence of alternative fueling infrastructure and industry standards governing CNG conversion.